

Appl. No. 09/655,893

Attorney Docket No. 10541-2085

**II. Remarks**

Reconsideration and re-examination of this application in view of the above amendments and the following remarks is herein respectfully requested.

After entering this amendment, claims 14-29 remain pending. Claims 9-13 have been cancelled.

***Allowable Subject Matter***

The examiner's indication that claims 22-29 are allowed is gratefully acknowledged.

***Claim Rejections - 35 U.S.C. § 102(b)***

By the examiner's reference to a previous office action of November 10, 2005, claim 14 was rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,801,338, to Akiyama et al. ("Akiyama"). Applicant respectfully traverses these rejections.

The examiner states that Akiyama discloses a method for connection within a multi-layer circuit board including a first pre-circuit assembly having a first conductive layer and a second pre-circuit assembly having a second conductive layer, the method comprising: forming an aperture within said first pre-circuit assembly, aligning the second pre-circuit assembly with the first pre-circuit assembly, attaching the first pre-circuit assembly to the second pre-circuit assembly, and inserting conductive material into the aperture to connect the first portion of the second conductive layer to the first conductive layer. Thus, Akiyama teaches a conductive material *initially* being placed between the first



BRINKS HOFER GILSON & LIONE  
PO Box 10395  
Chicago, IL 60611-5599

- 6 -

Appl. No. 09/655,893

Attorney Docket No. 10541-2085

conductive layer and the second conductive layer and that portions of this conductive material are removed in a later manufacturing process.

Applicants' invention differs from Akiyama in that the present claimed invention requires selectively forming at least one hole through the first pre-circuit assembly in a location where a connection to the conductive core member is desired to be formed and registering the second pre-circuit assembly with respect to said first pre-circuit assembly, effective to cause a portion of a second conductive member of the second pre-circuit assembly to reside above the at least one hole. Afterwards, the second pre-circuit assembly is attached to a dielectric member of the first pre-circuit assembly. Finally, the conductive material is inserted into the at least one hole to connect a portion of the second conductive member to the conductive core member.

A careful reading of Akiyama will reveal that the conductive material is placed between the first conductive layer and second conductive layer at an earlier stage and not into the at least one hole as claimed. Afterwards, an etching solution is used to etch away relevant portions of the conductive material. (Column 1, lines 42-58). Therefore, because the etching solution removes portions of the conductive material, there is no need to form at least one hole, register the at least one hole with respect to a conductive layer or selectively insert conductive material in the at least one hole. As such, Akiyama does not disclose any of the claimed steps of (a) selectively forming at least one hole through the first pre-circuit assembly in a location where a connection to the conductive core member is desired to be formed and (b) registering the second pre-circuit assembly with respect to said first pre-circuit assembly, effective to



BRINKS HOFER GILSON & LIONE  
PO Box 10395  
Chicago, IL 60611-5599

- 7 -

Appl. No. 09/855,893

Attorney Docket No. 10541-2085

cause a portion of a second conductive member of the second pre-circuit assembly to reside above the at least one hole and (c)

By the examiner's reference to the previous office action, Claim 14 was rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,404,059 to Livshits et al. ("Livshits"). Applicant respectfully traverses these rejections.

The examiner stated that layer 21 of Livshits represents the claimed conductive material of the present invention. As stated in a previous response of Applicants respectfully point out that, reference numeral 21 of Livshits refers to a *layer of varnish that is applied after assembly of the integrated circuits*. This layer of varnish is specifically disclosed in Livshits as being non-conductive. The varnish layer 21 therefore cannot be the conductive material of the claimed invention.

From this, it is submitted that Akiyama and Livshits fail to disclose each and every limitation of the present invention and the rejections based thereon should be withdrawn.

*Claim Rejections - 35 U.S.C. §103(a)*

By the examiner's reference to the previous office action, Claims 15-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Akiyama et al. ("Akiyama") or Livshits et al. ("Livshits"). Applicant respectfully traverses this rejection.



BRINKS HOFER GILSON & LIONE  
PO Box 10395  
Chicago, IL 60611-5599

- 8 -

Appl. No. 09/655,893

Attorney Docket No. 10541-2085

With respect to claims 15-21, these claims are dependent on claim 14 and are patentable for at least the same reasons as given above in support of claim 14. Accordingly, allowance of these claims is respectively requested.

*Conclusion*

In view of the above amendments and remarks, it is respectfully submitted that the present form of the claims are patentably distinguishable over the art of record and that this application is now in condition for allowance. Such action is requested.

Respectfully submitted,

6/26/2006  
Date

  
John A. Lingl (Reg. No. 57,414)

BRINKS  
HOFER  
GILSON  
ELTONE

BRINKS HOFER GILSON & LIONE  
PO Box 10395  
Chicago, IL 60611-5599

- 9 -